TRAFFIC ENGINEERING DIVISION

MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION

Policy/Procedure Guideline

SECTION 3: Traffic and Safety Studies

SUBJECT 3.2: Traffic Signal Feasibility Study

EFFECTIVE DATE: June 7, 1994

PARAGRAPH:

1. PURPOSE:

To determine if the advantages to be gained from a traffic signal installation will outweigh the disadvantages to be suffered if an operational change is not justified.

2. DESCRIPTION:

These steps are taken to determine if a traffic signal is needed.

a. Requests for traffic signal studies are normally received from concerned citizens, other agencies, or from MCDOT's various internal monitoring safety programs.

b. Staff visits the intersection of interest and prepares a detailed condition diagram.

c. Prepare a project site map of the area.

d. Take 24 hour machine traffic counts.

e. Review and record accident history for this location.

f. Staff records manual A.M. and P.M. peak hour turning

movement volume counts.

g. Tabulate all the field data then produce a report that contains conclusions and recommendations.

h. Based on the final report and sound engineering practices, the Traffic Engineer will make the decision if a traffic signal is needed.

i. Finally, a copy of the report and a letter explaining the results, is mailed to the original requestor.

3. EXHIBITS:

a. Traffic Safety Study,
Thunderbird Road and 71st Avenue
June 30, 1993

4. BACKGROUND:

Traffic Signals are not a cure-all solution. If needed, a traffic signal can improve the orderly movement of traffic. Also, interrupt heavy traffic at intervals to allow pedestrians and side street traffic to cross or enter the main street. It will increase the traffic handling capability of an intersection, and reduce the frequency of certain types of accidents. Whether or not a traffic signal is needed, its installation will probably have the following negative impacts. Increase delay to major traffic movements, plus introduce a higher frequency of certain types of accidents (principally rear-end accidents). If an intersection really needs a signal, these disadvantages will be offset by the benefits. The MUTCD contains guidelines (warrants) to aid in determining whether or not a traffic signal is needed. The final decision regarding signalization is based on sound engineering judgement by the Traffic Engineer.

5. AUTHORIZATION:

a. 1991 Transportation Laws of Arizona, Section 28-643, Local

traffic-control devices, Pages 66 - 67.

28-643. ***Local traffic-control devices***

> *Local authorities in their respective jurisdictions shall place and maintain such traffic-control devices upon highways under their jurisdiction as they deem necessary to indicate and to carry out the provisions of this chapter or local traffic ordinances or to regulate, warn or guide traffic. All traffic-control devices erected shall conform to the state manual and specifications.*

6. REFERENCES:

MUTCD - 1988 Edition
The Traffic Signal Book, by Fed Orcutt
Are Traffic Signals Really A Cure-All, Published by Arizona Department of Transportation

7. ATTACHMENTS:

Non-applicable.

Approved: _____

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Traffic Engineer